Abstracts

These selected abstracts and titles from the world literature are arranged in the following sections:

Syphilis and other treponematoses (clinical and therapy)

A case of syphilitic uveitis
G KRANIAS, D SCHEIDER, AND LA RAYMOND (University of Cincinnati, Cincinnati, USA). *Am J Ophthalmol* 1981;**91**:261-2.

Syphilitic aneurysms of the innominate artery
SM TADAVARTHY, WR CASTANEDA-ZUNIGA, J KLUGMAN, JB SHACHAR, AND K AMPLATZ (University of Minnesota, Minneapolis, USA). *Radiology* 1981;**139**:31-4.

Syphilis (pathology and experimental)

Influence of oxygen on respiration and glucose catabolism by *Treponema pallidum*
JT BARBIERI AND CD COX (University of Massachusetts, Amherst, USA). *Infect Immun* 1981;**31**:992-7.

Distribution of glucose incorporated into macromolecular material by *Treponema pallidum*
JT BARBIERI, FE AUSTIN, AND CD COX. (University of Massachusetts, Amherst, USA). *Infect Immun* 1981;**31**:1071-7.

Role of serum in survival of *Treponema pallidum* in tissue culture
AH FIELDSTEEL, JG STOUT, AND FA BECKER (Science Research Institute, Menlo Park, California, USA). *In Vitro* 1981;**17**:28-32.

Gonorrhoea (Microbiology)

A rapid slide coagglutination test—an alternative to the fluorescent antibody test for the identification of *Neisseria gonorrhoeae*
S SHANKER, DA DALEY, AND TC SORRELL (Institute of Clinical Pathology and Medical Research, Westmead, New South Wales, Australia). *J Clin Pathol* 1981;**34**:420-3.

The Phadebact® Gonococcus Test, a slide coagglutination test, was compared with the Difco fluorescent antibody test for the identification of *Neisseria gonorrhoeae* isolated from 18-24-hour primary plates. A total of 316 morphologically characteristic, oxidase-positive, Gram-negative diplococci was tested. Altogether 298 isolates were identified definitively as *N gonorrhoeae* by a rapid carbohydrate utilisation test; 287 of the 298 isolates of *N gonorrhoeae* were identified by the coagglutination test, a sensitivity of 96%. The sensitivity of the fluorescent antibody test was 85% (254 of 298 isolates). False-positive results due to cross-reactions with non-gonococcal *Neisseria* were uncommon (one of 18 non-gonococcal isolates in the coagglutination test, a specificity of 94%; two in 18 in the fluorescent antibody test, a specificity of 88%). None of 14 other contaminant organisms seen frequently on primary isolation media gave positive reactions.

Interpretation of the coagglutination test proved to be difficult initially. Thirty-two (10%) coagglutination tests had to be repeated; three of the 32 (1% of the total isolates tested) remained uninterpretable.

Authors' summary

Recalcitrant gonococci, plasmids and antibiotics (editorial) *Lancet* 1981;i:816-7.

Structural comparison of *Neisseria gonorrhoeae* outer membrane proteins
JE HECKELS (University of Southampton, Southampton, UK). *J Bacteriol* 1981;**145**:736-42.

Emergence in the Netherlands of penicillinase-producing gonococci carrying "Africa" plasmid in combination with transfer plasmid (letter)
JDA VAN EMBDEN, B VAN KLINGEREN, M DESSENS-KROON, AND LJ VAN WIJNGAARDEN (Rijksinstituut voor de Volkesgezondheid, Bilthoven, the Netherlands). *Lancet* 1981;i:938.

Immune-enhanced phagocytosis of *Neisseria gonorrhoeae* by macrophages—characterization of the major antigens to which opsonins are directed
RB JONES, JC NEWLAND, DA OLSEN, AND TM BUCHANAN (University of Indiana, Indianapolis, USA). *J Gen Microbiol* 1980;**121**:365-72.

Factors affecting the induction of phenotypically determined serum resistance of *Neisseria gonorrhoeae* grown in media containing serum or its diffusible components
DR VEALE, CW PENN, AND H SMITH (University of Birmingham, Birmingham, UK). *J Gen Microbiol* 1981;**122**:235-46.

Comparative virulence of opacity variants of *Neisseria gonorrhoeae* strain P9
M VIRJI AND JS EVERSON (University of Southampton, Southampton, UK). *Infect Immun* 1981;**31**:965-70.

The effect of benzylpenicillin on strains of *Neisseria gonorrhoeae* in liquid and solid media

JJ JAMIL, S HAFIZ, AND MG MCENTEGART, (University of Sheffield, Sheffield, UK). *J Antimicrob Chemother* 1981; **7**:201-3.

Inhibition of *Neisseria gonorrhoeae* by sodium polyanetholesulfonate

JL STANECK AND S VINCENT (University of Cincinnati, Cinicinnati, USA). *J Clin Microbiol* 1981; **13**:463-7.

A mouse model for the study of gonococcal genital infection

E KITA, H MATSUURA, AND S KASHIBA (Nara Medical College, Nara, Japan). *J Infect Dis* 1981; **143**:67-70.

Gonorrhoea (therapy)

Single 600-milligram oral dose of doxycycline in the treatment of gonorrhoea

R JONES (Sexually Transmitted Diseases Clinic, Sydney, Australia). *Med J Aust* 1981; **1**:184.

Non-specific genital infection

Follicular cervicitis—colposcopic appearances and association with *Chlamydia trachomatis*

MJ HARE, E TOONE, D TAYLOR-ROBINSON, RT EVANS, PM FURR, P COOPER, AND JK OATES (University of Cambridge, Cambridge, UK). *Br J Obstet Gynaecol* 1981; **88**: 174-80.

Follicular cervicitis was recognised in 15 (44%) of 34 women who were examined colposcopically and who were sexual partners of men with non-gonococcal urethritis. Valid results of culture for *Chlamydia trachomatis* were obtained in 26 cases: the organism was isolated from the cervix of five of 11 women in whom follicular cervicitis had been diagnosed but from only one of 15 whose cervices did not have this change. A similar correlation was not found for infection with *Mycoplasma hominis* or *Ureaplasma urealyticum*.

Authors' summary

Persistence of chlamydial infection after treatment for neonatal conjunctivitis

E REES, IA TAIT, D HOBSON, P KARAYIANNIS, AND N LEE (University of Liverpool, Liverpool, UK). *Arch Dis Child* 1981; **56**: 193-8.

A high incidence of pharyngeal infection was found in babies with isolation-positive chlamydial conjunctivitis. *Chlamydia trachomatis* was isolated from the pharynx of 12 (52%) of 23 babies before treatment and was reisolated from the eyes of four (12%) of 34 and from the pharynx of 14 (41%) of 34 after treatment. *C trachomatis* was reisolated significantly more often from babies treated only with topical tetracycline for four weeks (75%) than from those treated with both topical tetracycline and oral erythromycin for two weeks (32%). Reisolation from the eyes was associated with only minor clinical signs. Radiological signs of an inflammatory lesion in the chest were found in two of eight babies examined because of persistent cough. These signs were not associated with high or rising titres of serum chlamydial antibody.

Authors' summary

A new animal model for the study of *Chlamydia trachomatis* genital infections: infection of mice with the agent of mouse pneumonitis

AL BARRON, HJ WHITE, RG RANK, BL SOLOFF, AND EB MOSES (University of Arkansas, Little Rock, USA). *J Infect Dis* 1981; **143**: 63-6.

A new animal model for the study of genital infections caused by *Chlamydia trachomatis* has been developed. Female mice were successfully infected after intravaginal inoculation with the *C trachomatis* agent of mouse pneumonitis. Evidence for infection was obtained by detection of chlamydial inclusions in smears of cervical scrapings treated with Giemsa stain. Chlamydia were observed in sections of cervical tissues examined by light and electron microscopy as well as by fluorescence microscopy. An antibody response to the agent of mouse pneumonitis was also demonstrated in sera after infection. The mouse model of genital infection with the agent of mouse pneumonitis offers an opportunity to investigate many questions related to pathogenesis and immunity associated with *C trachomatis* genital infections.

Authors' summary

Chlamydial serum IgG, IgA and local IgA antibodies in patients with genital tract infections measured by solid phase radioimmunoassay

P TERHO AND O MEURMAN (University of Turku, Turku, Finland). *J Med Microbiol* 1981; **14**:77-88.

Amino acid requirements of a *Chlamydia trachomatis* genital strain in McCoy cell cultures

P KARAYIANNIS AND D HOBSON (University of Liverpool, Liverpool, UK). *J Clin Microbiol* 1981; **13**:427-32.

Purification and partial characterization of the major outer membrane proteins of *Chlamydia trachomatis*

HD CALDWELL, J KROMHOUT, AND J SCHACHTER (Rocky Mountain Laboratories, Hamilton, USA). *Infect Immun* 1981; **31**:1161-76.

***Chlamydia trachomatis* infection in adults with community-acquired pneumonia**

AL KOMAROFF, MD ARONSON, AND J SCHACHTER (Brigham and Women's Hospital, Boston, USA). *JAMA* 1981; **245**:1319-20.

Antimicrobial susceptibility of *Ureaplasma urealyticum*

JW DAVIS AND BA HANNA (Mount Sinai Hospital, New York, USA) *J Clin Microbiol* 1981; **13**:320-5.

An antimicrobial susceptibility test, a two-tube broth dilution and disc elution method for *Ureaplasma urealyticum*, was modified to incorporate some of the standard procedures of traditional antimicrobial testing. The susceptibility pattern of the species was re-evaluated by determining the effect of various antimicrobial agents on 21 vaginal isolates. All isolates were inhibited by tetracycline congeners (1-6 μg/ml) and killed by methenamine mandelate (0·6 μg/ml). All but one isolate were inhibited by erythromycin (0·4-3 μg/ml). Only eight isolates were inhibited by nalidixic acid (1-6 μg/ml), and seven were inhibited by nitrofurantoin (20-60 μg/ml), whereas all isolates were resistant to rifampin (1 μg/ml) and trimethoprim-sulphamethoxazole (5 μg/ml). The in-vitro technique described can readily be performed on isolates from individual patients before antimicrobial therapy has been started.

Authors' summary

Effects of antibiotics on dynamics of color change in *Ureaplasma urealyticum* cultures

TG BLOOMSTER AND RJ LYNN (University of South Dakota, Vermillion, USA). *J Clin Microbiol* 1981; **13**: 598-600.

Trichomoniasis

Lectin analysis of surface saccharides in two *Trichomonas vaginalis* strains differing in pathogenicity
A WARTON AND BM HONIGBERG (University of Massachusetts, Amherst, USA). *J Protozool* 1980;**27**:410-9.

Metronidazole—unanswered questions (editorial) *Lancet* 1981;i:818-9.

Candidosis

Adherence of *Candida albicans* to human vaginal and buccal epithelial cells
JD SOBEL, PG MYERS, D KAYE, AND ME LEVISON (Medical College of Pennsylvania, Philadelphia, USA). *J Infect Dis* 1981; **143**:76-82.

Factors that may influence adherence of *Candida albicans* to exfoliated human vaginal and buccal epithelial cells were studied in vitro. Factors that enhanced germination enhanced adherence. Heat-killed germinated *Candida* organisms demonstrated poorer adherence than viable *Candida* organisms. The difference between adherence of *C albicans* to buccal epithelial cells and that to vaginal epithelial cells was significant, as were differences among volunteers. Preincubation in fucose but not mannose, glucose, or galactose solutions, preincubation of germinated yeast or of epithelial cells in chymotrypsin or trypsin, a culture supernatant of germinated yeast killed by ultraviolet light, or pre-coating of epithelial cells with lactobacilli each inhibited adherence. These studies indicate that adherence of *C albicans* is enhanced by a surface component of germinated yeast, which may be a surface protein that binds to the epithelial receptor, possibly a glycoprotein.
Authors' summary

Comparative evaluation of the Iatron serological *Candida* check kit and the API 20C kit for identification of medically important *Candida* species
T SHINODA, L KAUFMAN, AND AA PADHYE (Center for Disease Control, Atlanta, USA). *J Clin Microbiol* 1981;**13**:513-8.

Analysis of an in-vivo model to study the interaction of host factors with *Candida albicans*
AH POOR AND JE CUTLER (University of Massachusetts, Amherst, USA). *Infect Immun* 1981;**31**:1104-9.

Effect of mouse phagocytes on *Candida albicans* in in-vivo chambers
JE CUTLER AND AH POOR (University of Massachusetts, Amherst, USA). *Infect Immun* 1981;**31**:1110-6.

Clinical toxicity of clotrimazole when administered vaginally
N WOLFSON, J RILEY, B SAMUELS, AND JM SINGH (Lakeside Hospital, Metaire, USA). *Clin Toxicol* 1981;**18**:41-6.

Genital herpes

The course of untreated recurrent genital herpes simplex infection in 27 women
ME GUINAN, J MACCALMAN, ER KERN, JC OVERALL, AND SL SPRUANCE (University of Utah, Salt Lake City, USA). *N Engl J Med* 1981;**304**:759-63.

To determine the course of the disease 27 women who presented within 24 hours of the first sign or symptom of a recurrence of genital herpes were observed daily for four days and then on alternate days until healing had occurred. After the lesions had healed, cervical specimens were cultured weekly for two months or until the next recurrence.

Prodromal symptoms (local irritation and neuralgia) were reported in 22 (82%) women, and in 13 of 19 women the recurrence began 5-12 days before the menses ($p = 0{\cdot}01$). The mean healing time was $8{\cdot}0 \pm 2{\cdot}8$ days; after a peak on the second day pain disappeared after a mean of four days. The mean duration of virus shedding from the lesions was $4{\cdot}8 \pm 2{\cdot}7$ days and was not associated with the size of the lesions. All herpes simplex virus (HSV) isolates were of type 2. Although cervical shedding of HSV was detected in nine (33%) cases, cervical or vaginal lesions were not noted even when external lesions were present. Between recurrences only one of 64 cervical specimens taken from the 27 women was culture-positive for HSV. Within one month of the study more than 60% had another recurrence of genital herpes.

Comparisons are made with other surveys showing longer healing times. The authors feel that as specific treatment was not offered patients with milder disease might have been more likely to volunteer. They conclude that the risk of transmission of HSV through sexual intercourse during asymptomatic periods is small.
R S Pattman

Neurogenic bladder after vaginal herpes infection (letter)
DH SMITH AND VB GORDON (Royal Free Hospital, London, UK). *Lancet* 1981;i: 837.

Production of hybrid cell lines secreting antibodies to herpes simplex virus type 2
RA KILLINGTON, L NEWHOOK, N BALACHANDRAN, WE RAWLS, AND S BACHETTI (McMaster University, Ontario, Canada). *J Virol Methods* 1981;**2**:223-36.

Assay of type-specific and type-common antibodies to herpes simplex virus types 1 and 2 in human sera
R EBERLE AND RJ COURTNEY (University of Tennessee, Knoxville, USA). *Infect Immun* 1981;**31**:1062-70.

Other sexually transmitted diseases

Presence of human papilloma virus antigens in juvenile multiple laryngeal papilloma
J COSTA, PM HOWLEY, MC BOWLING, R HOWARD, AND WC BAUER (National Cancer Institute, Bethesda, USA). *Am J Clin Pathol* 1981;**75**:194-7.

Although a human papilloma virus (HPV) has been considered to be a cause of juvenile laryngeal papillomata, only in rare cases have particles resembling papilloma viruses been demonstrated by electron microscopy in the nuclei of epithelial cells. In this study juvenile laryngeal papillomata, solitary laryngeal papillomata in adults, and cylindric cell papillomata of the nose and sinuses were examined immunocytochemically. By using an antiserum capable of recognising a common papillomavirus group antigen (prepared against disrupted papilloma virions), it was found that 11 out of 19 juvenile laryngeal papillomata studied contained cells staining for papillomavirus antigens. Similar

staining was not found in either five adult solitary papillomas or nine cylindric cell papillomas.

As only small foci of activity were detected in many of the juvenile papillomata this may explain the difficulties experienced in demonstrating papovavirus particles by electron microscopy. No lesions gave positive results when treated with an antiserum directed specifically at HPV-type 1 (normally associated with plantar warts) and no reactivity was detected; as yet no further specific sera are available.

The evidence supports the theory that the papillamovirus is implicated in the aetiology of juvenile laryngeal papillomata.

R S Pattman

Immunologic detection of condylomata acuminata-specific antigens

J DUNN, L WEINSTEIN, W DROEGEMUELLER, AND W MEINKE (University of Arizona, Tucson, USA) *Obstet Gynecol* 1981; **57:** 351-6.

A rabbit serum fraction was prepared which contained antibody specific for unique antigen(s) found in human condylomata acuminata tissue but not in other human papillomatous or normal tissues. Indirect immunofluorescent staining of cryostat sections of human tissues demonstrated an intense nuclear fluorescence in cells of the prickle cell layer of condylomata acuminata sections. Nuclear fluorescence was not apparent in cells in the basal or dermal layers. The serum fraction did not elicit nuclear fluorescence in epithelial cells of tissue from human vulva, human foreskin, juvenile hand wart, plantar wart, or squamous cell papilloma of the cervix. This demonstration of antigens unique to epithelial cells of condylomata acuminata may prove useful in the often difficult diagnosis of cervical condylomata.

Authors' summary

Intralesional bleomycin injection in treatment of condyloma acuminatum

S FIGUEROA AND AR GENNARO (Castle O'Neill 5, Hato Rey, USA). *Dis Colon Rectum* 1981; **23:** 550-1.

Miscellaneous

Isolation of *N meningitidis* from patients in a gonorrhea screening program: a four-year survey in New York City

YC FAUR, ME WILSON, AND PS MAY (New York City Department of Public Health, New York, USA). *Am J Pub Hlth* 1981; **71:** 53-8.

During a four-year survey of two groups of patients for gonorrhoea—one consisting of male and female patients attending a VD control department, the other of homosexual men attending a special clinic—tests for *Neisseria meningitidis* were included. A total of 964 *N meningitidis* strains were recovered from the genitourinary tract or anal canal. The isolation rate had trebled during the period of the survey. The majority of strains came from the anal canal of homosexuals. In only 41 instances were gonococci and *N meningitidis* strains present in the same individual. There was evidence that *N meningitidis* was responsible for urethritis or proctitis in isolated cases, and three cases were epidemiologically linked.

It is concluded that the isolation rate of *N meningitidis* from sexually active sites is rising and that they are potential pathogens, especially in homosexual men. The survey also confirmed reports that gonococci and meningococci are comparatively rarely found together in the same individual. The authors consider that *N meningitidis* isolated in homosexual men with symptoms may be causative and should be considered in the clinical management of such patients.

G W Csonka

Serological evidence for the role of *Bacteroides fragilis* and *Enterobacteriaceae* in the pathogenesis of acute pelvic inflammatory disease

J PAAVONEN, VV VALTONEN, DL KASPER, M MALKÄMAKI, AND H MÄKELÄ (University of Helsinki, Helsinki, Finland). *Lancet* 1981; i: 293-5.

One hundred and one women with acute pelvic inflammatory disease (PID) were studied. Evidence of gonococcal, chlamydial, and enterobacterial infection was sought by the use of cultural and serological methods. Significant concentrations of haemagglutinating antibodies against enterobacterial common antigen (ECA) and anti-*Bacteroides fragilis* IgM were found in 30 and 28 patients respectively. Although *Neisseria gonorrhoeae* and *Chlamydia trachomatis* respectively were isolated from the cervix of 26 and 32 women with acute PID, there was no significant difference in the prevalence rate of ECA or *B fragilis* antibodies (25-32%) between patients infected with these organisms and those who were not.

Serological evidence of enterobacterial infection was more commonly found in patients with an adnexal mass, a longer duration of symptoms, or use of the intrauterine contraceptive device.

The data presented supports the concept that PID has a polymicrobial aetiology.

A McMillan

Metronidazole metabolite and *Gardnerella vaginalis (Corynebacterium vaginale)* (letter)

MJ BALSDON AND D JACKSON (St Mary's Hospital, Portsmouth). *Lancet* 1981; i: 1112.

Behcet's disease: lack of correlation of clinical manifestations with HLA antigens

AU MUFTUOGLU, H YAZICI, S YURDAKUL, H PAZARLI, Y OZYAZGAN, T TUZUN, H ALTAC, AND B YALCIN (University of Istanbul, Turkey). *Tissue Antigens* 1981; **17:** 226-30.

HLA antigens in patients with scabies

ES FALK AND E THORSBY (University of Tromsø, Tromsø, Norway). *Br J Dermatol* 1981; **104:** 317-20.

Vaginal absorption of povidone iodine

H VORHERR, UF VORHERR, P MEHTA, JA ULRICH, AND RH MESSER (University of New Mexico, Albuquerque, USA), *JAMA* 1980; **244:** 2628-9.